

In The Claims

What is claimed is:

1. (amended) A slide for a gravity slide sorter comprising:

an inclined chute having a chute upper end, a bottom and two sides;  
a first support bracket and a second support bracket, said first support bracket and said second support bracket each mounted to a side of the chute, each of said first and second support brackets having an upper edge distal said chute bottom;

each of said first and second support brackets having at least one alignment notch located on its upper edge;

a product guide supported by said support brackets;  
said product guide having a guide upper end and two guide sides;  
said product guide having at least one guide tab extending from each said guide side;  
at least one guide tab receivable in each said at least one alignment notch of said first support bracket;

at least one guide tab receivable in each said at least one alignment notch of said second support bracket;

attachment means attaching said guide upper end to said chute upper end;  
said attachment means limiting movement of said product guide laterally in relation to said chute bottom; and

said attachment means allowing relative movement of said product guide normal to said chute bottom.

2. (amended) The slide of claim 1 further including:

each of said first and second support brackets having at least one adjustment mechanism;

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each said at least one adjustment mechanism operable to adjust the height of said bracket upper edges in relation to said chute bottom.

3. (amended) The slide of claim 1 wherein said attachment means comprising:

at least one elongated pin extending from said chute; and  
at least one pin-receiving opening provided in said product guide.

4. (amended) The slide of claim 2 wherein said attachment means comprising:

at least one elongated pin extending from said chute; and  
at least one pin-receiving opening provided in said product guide.

5. (amended) The slide of claim 1 wherein:

the product guide is constructed of a flexible material; and  
the product guide flexibly moveable upwardly from the bottom of the chute responsive to forces imparted by a product intermediate the chute and the product guide.

6. (amended) The slide of claim 2 wherein:

the product guide is constructed of a flexible material; and  
the product guide flexibly moveable upwardly from the bottom of the chute responsive to forces imparted by a product intermediate the chute and the product guide.

7. (amended) The slide of claim 1 wherein the chute further includes:

a plurality of channel dividers extending upwardly from the channel bottom; and  
at least one of said plurality of channel dividers a different height from at least one other said plurality of channel dividers.

8. (amended) The slide of claim 1 wherein:

each said alignment notch defining a notch bottom and two notch edges; and

the notch edge distal said chute upper end comprising a tapered edge such that the notch opening is wider at the bracket upper edge than at the notch bottom.

9. (amended) The slide of claim 2 wherein:

each said alignment notch defining a notch bottom and two notch edges; and

the notch edge distal said chute upper end comprising a tapered edge such that the notch opening is wider at the bracket upper edge than at the notch bottom.

10. The slide of claim 1 wherein the tabs are integral with the product guide.

Please cancel claims 11 and 12.

13. (added) The slide of claim 1 wherein:

said attachment means comprising at least two pins extending from said chute upper end and at least two pin-receiving openings in said product guide.

14. (added) The slide of claim 2 wherein:

each said adjustment mechanism comprises a slotted opening in one of said first and second support mechanisms and a corresponding screw and threaded opening in a corresponding said chute side.

15. (added) A gravity-fed sorting machine comprising:

a hopper for retaining product to be sorted;

a slide;

said slide oriented at an acute slide angle in relation to a horizontal direction;

a feeder for distributing products to the slide;

an optical viewing station positioned below the slide;

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ejector means for altering a trajectory path of selected products;  
a product guide supported on said slide; and  
attachment means for attaching said product guide to said channeled slide at a slide upper end.

16. (added) The sorting machine of claim 15 further comprising:

    said slide comprising a chute having a chute bottom, chute sides and a chute upper end;  
    said attachment means allowing movement of said product guide normal to said chute bottom; and  
    said attachment means limiting lateral movement of said product guide in relation to said chute bottom.

17. (added) The sorting machine of claim 16 further comprising:

    a first support bracket and a second support bracket, said first and second support brackets each connected to a chute side;  
    each of said first and second support brackets having at least one adjustment mechanism;  
    each of said first and second support brackets having a bracket upper edge distal said chute bottom;  
    each said at least one adjustment mechanism operable to adjust the height of said bracket upper edges in relation to said chute bottom; and  
    said product guide supported by said first and second support brackets.

18. (added) The sorting machine of claim 17 further comprising:

    each said bracket upper edge having at least one alignment notch;  
    said product guide having a guide upper end and guide sides;  
    at least one guide tab extending from each said guide side; and

each said at least one guide tab receivable in a corresponding said alignment notch.

19. (added) The sorting machine of claim 18 further comprising:

    said attachment means comprising at least one elongated pin extending from said chute at said chute upper end; and

    at least one pin-receiving opening provided in said product guide at said guide upper end.

20. (added) The sorting machine of claim 16 further comprising:

    said product guide constructed of a flexible material allowing flexing movement of said product guide in relation to said chute responsive to biasing forces.

21. (added) The sorting machine of claim 16 further comprising:

    a plurality of channel dividers extending upwardly from the channel bottom;

    at least one of said plurality of channel dividers a different height from at least one other said plurality of channel dividers.

22. (added) The slide of claim 18 wherein:

    each said alignment notch defining a notch bottom and two notch edges; and

    the notch edge distal said chute upper end comprising a tapered edge such that the notch opening is wider at the bracket upper edge than at the notch bottom.

23. (added) A gravity-fed sorting machine comprising:

    a hopper for retaining product to be sorted;

    a slide;

    said slide oriented at an acute slide angle in relation to a horizontal direction;

    a feeder for distributing products to the slide;

    an optical viewing station positioned below the slide;

    ejector means for altering a trajectory path of selected products;

a product guide supported on said slide;  
attachment means for attaching said product guide to said channeled slide at a slide upper end;

said slide comprising a chute having a chute bottom, chute sides and a chute upper end;

said attachment means allowing movement of said product guide normal to said chute bottom;

said attachment means limiting lateral movement of said product guide in relation to said chute bottom;

said product guide supported on said chute sides; and

said product guide spaced from said chute bottom.

24. (added) The sorting machine of claim 23 further comprising:

a plurality of channel dividers extending upwardly from the channel bottom;

at least one of said plurality of channel dividers a different height from at least one other said plurality of channel dividers; and

said product guide spaced from said channel dividers.

25. (added) The sorting machine of claim 24 further comprising:

said attachment means comprising at least one elongated pin extending from said chute at said chute upper end; and

at least one pin-receiving opening provided in said product guide at said guide upper end.

26. (added) The sorting machine of claim 25 further comprising:

said product guide constructed of a flexible material allowing flexing movement of said product guide in relation to said chute responsive to biasing forces.